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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DASTOURI, MEHRDAD

ART UNIT

PAPER NUMBER

2623

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/757,529

Applicant(s)

MORI, TOSHIHIRO

Examiner

Mehrdad Dastouri

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 16-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Response to Amendment***

***Response to Amendment***

1. Applicant's amendment filed February 27, 2004, has been entered and made of record.

2. Applicant's arguments regarding new Claims 16-26 have been fully considered but they are not persuasive with respect to the following limitations. Applicant argues in essence that prior art of record (Yamaguchi et al.) do not disclose the following limitations in Claim 16:

a plurality of filters provided for image detection;

an extractor as defined in Claim 16.

Applicant further argues that Yamaguchi et al do not disclose the following limitations in Claims 24 and 26:

a binarizer which binarizes input image data to provide bi-level image data, and a storage device which stores the bi-level image data;

a partial image extractor

The Examiner disagrees and indicates that image filtering is the process of convolving an image with a filter kernel. As depicted in Figures 8 and 10, and disclosed in Column 12, Lines 30-53, the extracted pattern on the image data (e.g., circular pattern of a stamp on the bill) will be convolved with the reference patterns P1-P8 to verify existence of the pattern in the input image data (Reference patterns P1-P8 are equivalent to detection filters 1-16 depicted in Figure 6 of the instant application.).

Furthermore, Yamaguchi et al clearly disclose a binarizer which binarizes input image data to provide bi-level image data as depicted in Figure 5, Binarizing Section, and described in Column 11, Lines 46-52. The binarized data is stored in bit map memory at Step S1003 of Figure 8 flowchart.

Extraction of patterns are executed in bill recognition processing section 67 depicted in figure 9 as described in

Applicant's further arguments regarding new Claims 16-26 are moot in view of new grounds of rejection.

### ***Drawings***

3. The drawings are objected to because of the following informalities:

In Figure 1, "EXTRACTER" should be corrected to "EXTRACTOR".

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitation recited in Claims 18 and 19 claiming that "the filters in the combination of filters are positioned along a circumferential line" must be shown or the feature canceled from the claims. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Specification***

5. The specification disclosure is objected to because of the following informalities:

On Page 3, Lines 17 and 20, and other occurrences, "EXTRACTER" should be corrected to "EXTRACTOR".

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 16, 20 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhu et al (U.S. 6,301,386).

Regarding Claim 16, Zhu et al disclose a specified pattern detection apparatus comprising:

a plurality of filters provided for image detection (Figures 1-6 and 12; Column 3, Lines 33-44);

an extractor which extracts a specified pattern included in an image with the use of a combination of filters to determine a position of the specified pattern (Figures 1-6 and 12; Column 3, Lines 66-67, Column 4, Lines 1-31. As depicted in Figure 1, at Step

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114 specified patterns (machine print, Hand print, bounding rectangles, text, etc.,) and their positions (by implementing edge and bounding rectangle detection) will be extracted by utilizing first, second and third filters.); and

a calculator which determines the position of the specified pattern more precisely than said extractor (Figure 1, Homogenous region grouping; Figures 3-5; Column 4, Lines 13-31).

Regarding Claim 20, Zhu et al further disclose the specified pattern detection apparatus according to Claim 16, wherein the plurality of filters are provided for extracting a plurality of specified patterns (Column 4, Lines 1-12).

With regards to Claim 22, arguments analogous to those presented for Claim 16 are applicable to Claim 22.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 17-19, 21 and 23-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu et al in view of Yamaguchi et al (U.S. 5,390,003).

Regarding Claim 17, arguments analogous to those presented for Claim 16 are applicable to Claim 16.

Zhu et al further disclose a reduced image generator which generates a reduced image of an image including the specified partial images, the reduced image having a

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lower resolution than the image including the specified partial image (Figure 1, Step 103, Subsampling).

Zhu et al is processing a gray scale image and is silent regarding binarizing the input image. Binarization of an image is extremely well known in the art as taught by Yamaguchi et al (Figure 5, Binarizing Section; Column 11, Lines 46-52).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to modify Zhu et al invention according to the teachings of Yamaguchi et al to binarize the input image because it is a well known methodology routinely implemented in the art that reduce image processing time and storage requirement.

Regarding Claims 18 and 19, Yamaguchi discloses the filters in the combination of filters are positioned along a circumferential line (Figure 10, Filtering of the circular pattern.).

With regards to Claim 21, arguments analogous to those presented for Claim 20 are applicable to Claim 21.

With regards to Claim 23, arguments analogous to those presented for Claim 17 are applicable to Claim 23.

With regards to Claim 24, arguments analogous to those presented for Claims 16 and 17 are applicable to Claim 24. Regarding Claim 24, Zhu et al further disclose a gain calculator which calculates information for each pixel in the gray scale image, in which the specified partial images are extracted, with a gain filter, the information representing a distance from the each pixel to the specified partial image (Column 3,

Lines 37-44; Column 3, Lines 66-67, Column 4, Lines 1-12. Second filter calculates the aspect ratio (gain) of the partial image (text).). Zhu et al further disclose a position calculator which calculates ideal positions of the partial images to be included in a specified pattern (Figures 2-5; Column 4, Lines 32-46).

With regards to Claim 26, arguments analogous to those presented for Claim 24 are applicable to Claim 26.

***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.



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**Contact Information**

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mehrdad Dastouri whose telephone number is (703) 305-2438. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mehrdad Dastouri  
Primary Examiner  
Art Unit 2623  
May 16, 2004

**MEHRDAD DASTOURI  
PRIMARY EXAMINER**

*Mehrdad Dastouri*